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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,682	04/02/2004	Hiroshi Suzuki	251404US2	9772
22850	7590	01/10/2006	EXAMINER HAM, SEUNGSOOK	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ART UNIT 2817	

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/815,682	SUZUKI ET AL.	
	Examiner	Art Unit	
	Seungsook Ham	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as anticipated by Kimura et al. (US '850).

Kimura et al. (figs. 6(a)-6(c)) discloses a common-mode filter comprising: a magnetic drum type core including a core portion 2 and a pair of flange portions 3; electrodes 5a-5d provided on the pair of flange portions of the drum type core; at least two wires 6, 7 wound on the core portion of the core and having ends connected to the electrodes, respectively, (see fig. 6(c)); wherein each of the flange portions of the core has a groove between corresponding two of the electrodes (see fig. 6(c), the electrodes are disposed on a respective groove), and a separation protrusion 4 for separating the groove into two; the wires are wound on the core portion of the core such that an inter-wire distance (the space between two wires 6 and 7) between the wires is provided so that no part of any wound wire contacts any other part of the any wound wire, and a winding pitch (the space between each wound wire 6 or 7) between adjacent turns

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of each of the wires is provided; the ends of each of wires are connected to respective ones of the electrodes (see fig. 6(c)); and the separation protrusion 4 has a width greater than the inter-wire distance (see fig. 6(b), the spacing between the first two wires has a smaller width than the protrusion 4 in fig. 6(c)).

Regarding claim 2, Kimura et al. also shows a plate shaped core 9 fixed between top surfaces and the pair of flange portions of the drum type core.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (US '850) in view of Aoki et al. (US '095).

Kimura et al. does not show providing a composite magnetic material over the space between top surfaces of the pair of flange portions of the drum type core. However, Kimura et al. (figs. 2(d) and 2(e)) suggests a resin 26 covering the core.

Aoki et al. (US '095, fig. 2) discloses a similar common-mode filter having a composite magnetic material 24 over a space between top surfaces of the pair of flange portions of the drum type core.

It would have been obvious to one of ordinary skill in the art to provide a composite magnetic material over the space between top surfaces of the pair of flange

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portions of the drum type core in the device of Kimura et al. to improve the quality (such as reliability, characteristics, appearance, etc.) of the filter device as taught by Aoki et al. (US '095, col. 2, lines 22-25).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (us '850) in view of Aoki et al. (JP 2002-075722).

The device of Kimura et al. does not show the exact composition of the drum type core.

Aoki et al. (JP '722, see abstract) discloses the same ferrite composition as the applicant's claimed invention.

It would have been obvious to one of ordinary skill in the art to use the ferrite material of Aoki et al. (JP '722) to make the core in the device of Kimura et al. to obtain a high quality factor as taught by Aoki et al. (JP '722, see abstract).

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (US '850) or Murakami et al. (JP 2000-311816) in view of Wada (JP '705).

Kimura et al. (figs. 6(a)-6(c)) is applied as above.

Murakami et al. (figs. 1-4) also discloses a common-mode filter comprising: a drum type core 10 having a core portion 11 and a pair of flange portions 12; electrodes 14 provided on the pair of flange portions; at least two wires wound on the core portion 20 and having ends connected to the electrodes respectively; and the at least two wires do not contacts any other parts of the any other wound wire, while keeping the pitch between the at least two wires constant. Murakami et al. also shows a plate shaped core.

Kimura et al. and Murakami et al. do not show the core portion has a plurality concave/convex portions for positioning the wires.

Wada (figs. 1(a)-3) discloses a core having a plurality of concave/convex portions to position the coil/wire.

It would have been obvious to one of ordinary skill in the art to provide a plurality of concave/convex portions on the core in the device of Kimura et al. or Murakami et al. to easily regulate the pitch between the wire turns as taught by Wada (see abstract).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (US '850) or Murakami et al. (JP 2000-311816) in view of Wada (JP '705) as applied to claim 5 above, and further in view of Aoki et al. (US '095).

The modified device of Kimura et al. or Murakami et al. does not show providing a composite magnetic material over the space between top surfaces of the pair of flange portions of the drum type core.

Aoki et al. (US '095, fig. 2) discloses a similar common-mode filter having a composite magnetic material 24 over a space between top surfaces of the pair of flange portions of the drum type core.

It would have been obvious to one of ordinary skill in the art to provide a composite magnetic material over the space between top surfaces of the pair of flange portions of the drum type core in the modified device of Kimura et al. or Murakami et al. to improve the quality (such as reliability, characteristics, appearance, etc.) of the filter device as taught by Aoki et al. (US '095, col. 2, lines 22-25).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (US '850) or Murakami et al. (JP 2000-311816) in view of Wada (JP 705) as applied to claim 5 above, and further in view of Aoki et al. (JP 2002-075722).

The modified device of Kimura et al. or Murakami et al. does not show the exact composition of the drum type core.

Aoki et al. (JP '722, see abstract) discloses the same ferrite composition as the applicant's claimed invention.

It would have been obvious to one of ordinary skill in the art to use the ferrite material of Aoki et al. (JP '722) to make the core in the modified device of Kimura et al. or Murakami et al. to obtain a high quality factor as taught by Aoki et al. (JP '722, see abstract).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (US '055) or Hirai et al. (US Pat. App. Pub. '526) in view of Wada (JP '705).

Wang (figs. 1, 2 and 6) also discloses an inductance device comprising: a drum type core having a core portion 1' and a pair of flange portions 2', 3'; electrodes 311', 321', 211', 221' provided on the pair of flange portions; at least two wires wound on the core portion 6', 7' and having ends connected to the electrodes respectively; and the at least two wires do not contacts any other parts of the any other wound wire, while keeping the pitch between the at least two wires constant.

Hirai et al. (fig. 8-10) also discloses an inductance device comprising: a drum type core 1 having a core portion 12 and a pair of flange portions 11; electrodes 3 provided on the pair of flange portions; at least two wires wound on the core portion

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2a, 2b and having ends connected to the electrodes respectively; and the at least two wires do not contacts any other parts of the any other wound wire, while keeping the pitch between the at least two wires constant.

It should be noted that the recitation "common-mode filter" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Wang and Hirai et al. do not show the core portion has a plurality of concave/convex portions for positioning the wires.

Wada (figs. 1(a)-3) discloses a core having a plurality of concave/convex portions to position the coil/wire.

It would have been obvious to one of ordinary skill in the art to provide a plurality of concave/convex portions on the core in the device of Wang or Hirai et al. to easily regulate the pitch between the wire turns as taught by Wada (see abstract).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (US '055) or Hirai et al. (US Pat. App. Pub. '526) in view of Wada (JP '705) as applied to claim 5 above, and further in view of Kimura et al. (US '850).

The modified device of Wang or Hirai et al. does not show a plate-shape core fixed on the top surface of the drum type core.

Kimura et al. (fig. 1) discloses a similar common-mode filter having a plate-shape core 19 fixed on the top surface of the drum type core 11 to form a closed magnetic circuit structure (col. 4, lines 1-4).

It would have been obvious to one of ordinary skill in the art to provide a plate-shape core on the top surface of the drum type core in the modified device of Wang or Hirai et al. to provide a closed magnetic circuit structure as taught by Kimura et al.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (US '055) or Hirai et al. (US Pat. App. Pub. '526) in view of Wada (JP '705) as applied to claim 5 above, and further in view of Aoki et al. (US '095).

The modified device of Wang or Hirai et al. does not show providing a composite magnetic material over the space between top surfaces of the pair of flange portions of the drum type core.

Aoki et al. (US '095, fig. 2) discloses a similar common-mode filter having a composite magnetic material 24 over a space between top surfaces of the pair of flange portions of the drum type core.

It would have been obvious to one of ordinary skill in the art to provide a composite magnetic material over the space between top surfaces of the pair of flange portions of the drum type core in the modified device of Wang or Hirai et al. to improve the quality (such as reliability, characteristics, appearance, etc.) of the filter device as taught by Aoki et al. (US '095, col. 2, lines 22-25).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (US '055) or Hirai et al. (US Pat. App. Pub. '526) in view of Wada (JP '705) as applied to claim 5 above, and further in view of Aoki et al. (JP 2002-075722).

The modified device of Wang or Hirai et al. does not show the exact composition of the drum type core.

Aoki et al. (JP '722, see abstract) discloses the same ferrite composition as the applicant's claimed invention.

It would have been obvious to one of ordinary skill in the art to use the ferrite material of Aoki et al. (JP '722) to make the core in the modified device of Wang or Hirai et al. to obtain a high quality factor as taught by Aoki et al. (JP '722, see abstract).

Response to Arguments

Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not


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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (571) 272-2405. The examiner can normally be reached on Monday-Thursday, 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Seungsook Ham
Primary Examiner
Art Unit 2817

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